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CHAPTER 1 ACCESS STANDARDS

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1.1 PURPOSE

The purpose of this chapter is to provide general guidance on DelDOT's policies for access locations and signalization.

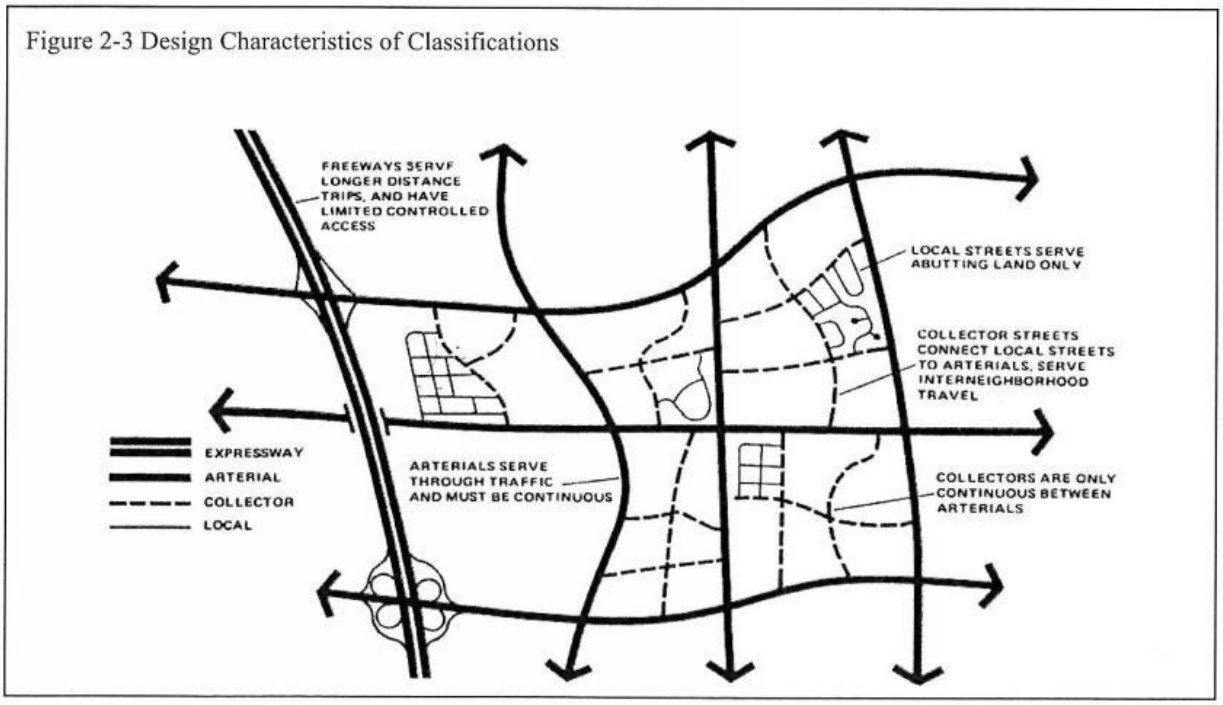
Roadways are designed to carry vehicles between land uses in order to carry out our daily activities associated with work and recreational activities. The functional classification of a roadway defines the level that it grants access to surrounding land uses. As Figure 1.1-a shows, arterial roadways are designed with limited access to surrounding land uses in order to promote mobility, while local roads are designed to provide a higher level of land access at the sacrifice of increased mobility. C~~While c~~ollector roadways are designed with the goal of providing both access and mobility~~, it is difficult to provide high levels of both at the same time~~.

While roadways provide the link between land uses, entrances provide the physical transition between a site and the abutting roadway. Entrances shall be designed to provide safe and reasonable access to the site while providing the least impact on the existing roadway system. The number, spacing, type, and location of access and traffic signals have a direct and often significant effect on the capacity, speed, and safety of the highway.

Traffic signals and their installation are guided by the *Delaware Manual on Uniform Traffic Control Devices* (DE MUTCD) and regulated by the DelDOT Traffic Section. DelDOT may at its discretion, grant an access to a State-maintained roadway, require design and operational modifications as it deems necessary, restrict one or more turning movements, or deny the access so long as such discretion does not violate relevant law. For individual residential access requirements, refer to Chapter 7.

Each state highway segment is assigned a functional classification as defined in Sections 1.4 to 1.7. The existing design of the highway is not required to meet the design standards of the functional classification at the time the classification is assigned. All new access permitting and other access design decisions shall meet the design standards in this chapter for the assigned category for the highway or segment of highway. Roadways discussed in this chapter shall be in conjunction with DelDOT's Functional Classification Maps available at http://www.deldot.gov/information/pubs_forms/. Section 1.8 provides additional guidance for entrances onto Service Roads.

Figure 1.1-a Roadway Functionality in Serving Traffic Mobility and Land Access



Source for Figure 2-2 and 2-3: *Arterial Street Access Control Study*, Tri County Regional Planning Commission, 1981, p.3.

1.2 ENTRANCE POLICY

1.2.1 Entrance Policy - Location of Entrances

Entrances shall be located to provide the required sight distance, in accordance with AASHTO Standards, where the highway alignment and profile are favorable, where there are no sharp curves ~~or,~~ steep grades or other factors that would limit sight lines~~, and where sight distance in conjunction with the access is adequate for safe traffic operation~~. Refer to Figure 1.2.1-a for guidance on entrance spacing. When feasible and practical, two adjacent commercial properties should use a common ingress and egress from the public highway. The original property owner should establish and record a cross access easement regarding the location and design of such ingress and egress subject to the review and approval of DelDOT.

~~Analysis should be performed for access movements. In the absence of adequate analysis, a~~Access locations and allowable movements shall be determined at DelDOT's discretion. Considerations for the placement of entrances should ~~meet the requirements of Section 5.2 and shall~~ include evaluation of sight distance, location of adjacent entrances~~,~~, length of auxiliary lanes, ~~and~~ distance from intersecting streets, adjacent street queue lengths and the adjacent street speed limit. Where feasible, entrances shall not be located within 40 feet of an intersection radius, within queues of adjacent intersections or on acceleration and deceleration lanes. Additional requirements and guidance are given in the following sections. The applicant may be required to provide analysis to document how a proposed access point will satisfy the requirements of this manual. See Chapter 2 for additional information on Traffic Operational Analyses and Traffic Impact Studies.

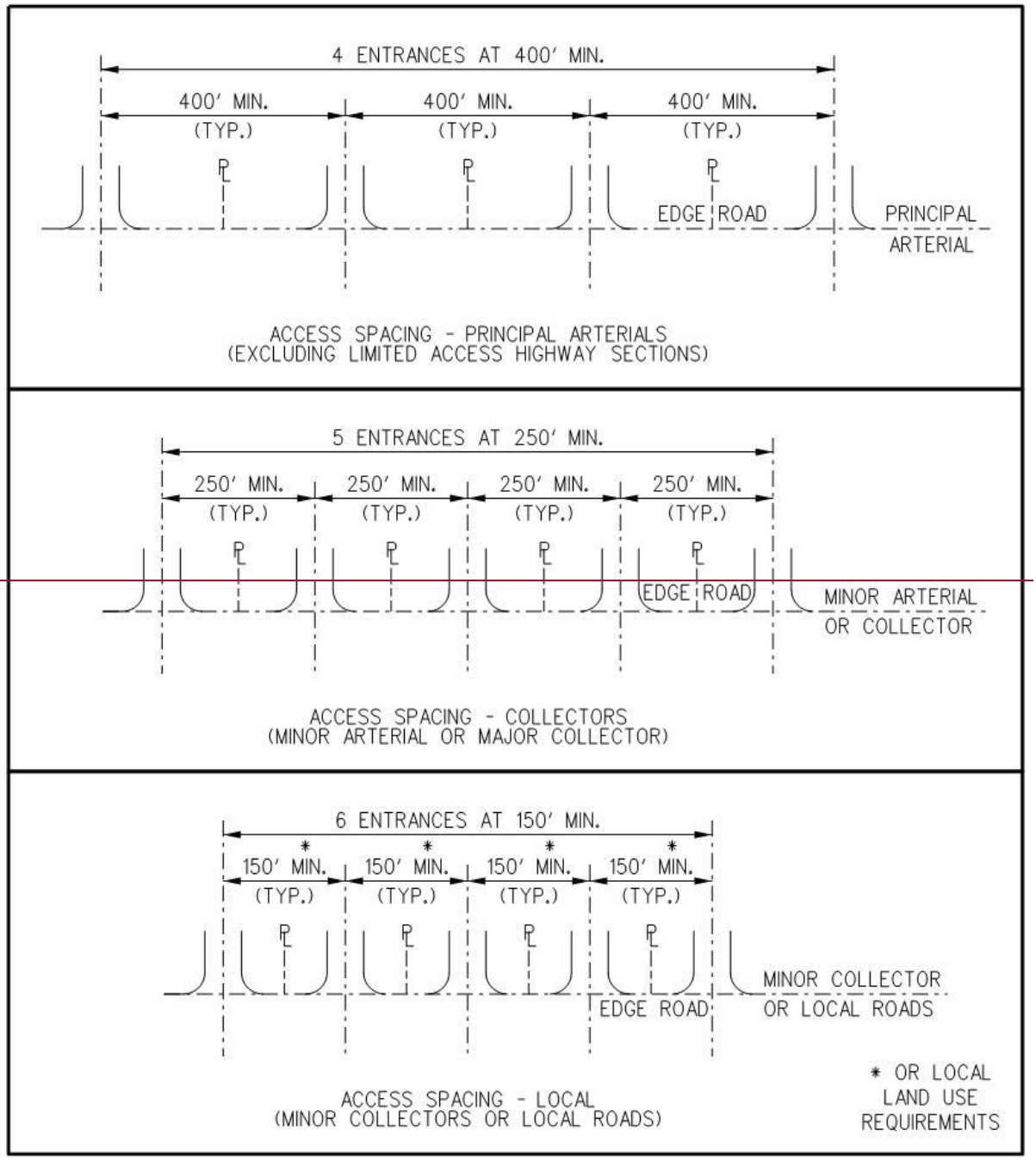
Site circulation should be designed to allow vehicles to easily enter the site ~~not~~ without blocking entrances or parking spaces, and without impacting traffic control phasing. The design vehicle shall be able to perform all necessary maneuvers within the site to enter and exit the roadway safely. Backing of delivery vehicles and trucks into or out of a site entrance will not be permitted. ~~and not be impacted by traffic control devices or parking spaces.~~

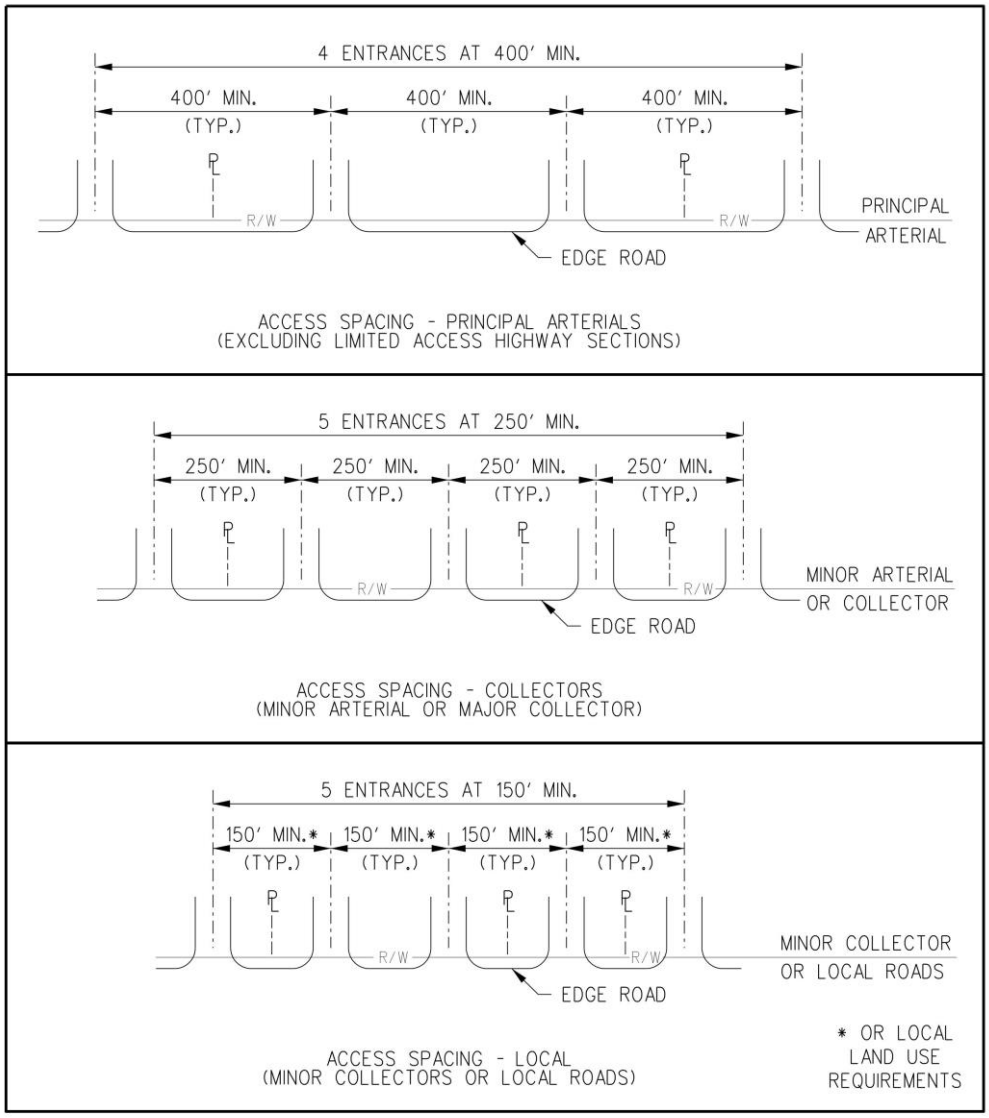
Both Major and Minor Subdivisions should be designed to ensure that lot layouts allow for safe and practical driveway locations. Driveway locations should also be accounted for in the configuration of residual lands of subdivisions.

Any site being considered by DelDOT for access on to a State-maintained roadway shall be evaluated to determine if it will also impact any other DelDOT programs. These programs include, but are not limited to, the Corridor Capacity Preservation Program (CCPP), the Capital Transportation Program (CTP), the Transportation Enhancement (TE) Program, the Hazard Elimination Program (HEP), Pavement Rehabilitation Program, and Community Transportation Fund Program. If a plan would have an ~~effect~~ impact on any of these programs, it may necessitate additional review by DelDOT and additional requirements may need to be met.

~~When feasible and practical, two adjacent commercial properties should use a common ingress and egress from the public highway. The original property owner should establish and record a cross access easement regarding the location and design of such ingress and egress subject to the review and approval of DelDOT.~~

Figure 1.2.1-a -Spacing of Driveways and Entrances





1.2.2 Entrance Policy - Deeded Access Rights

Along some sections of State-maintained roadway, access rights have been obtained by DelDOT in the form of a recorded deed (Denial of Access). Where access is controlled by deed, there is no right of direct access through the deeded section. The property owner so affected may inquire with DelDOT about changes or purchase of any deeded access rights. The obtaining or revising of access rights by deed is regulated by the right-of-way acquisition process. Where access is not restricted by deed, an entrance permit consistent with the requirements of the *Development Coordination Manual* is still required for the construction and use of a driveway.

1.3 SIGNALIZED ACCESS REQUIREMENTS

A. When a signal is proposed, a signal justification study is required. The study shall be completed and signed by a Delaware registered professional engineer using the following standards:

1. Highway signal progression bandwidth and efficiency analysis including current and anticipated future signalized intersections
2. An optimum signal cycle as determined by DelDOT
3. Actual speeds as determined by a spot speed study
4. ~~A highway bandwidth of 40 percent shall be used where conditions allow, but no less than 30 percent bandwidth where existing or future locations may be at or below 30 percent.~~Highway bandwidth with the proposed traffic signal shall be no less than the optimized existing bandwidth without the proposed traffic signal.
5. The green time allowed for the cross street shall be no less than the time necessary to accommodate pedestrian movements

B. The signal justification study shall also provide the following information:

1. Notation of all existing access, possible future access locations for at least one mile in each direction, and all potential roadway and signal improvements
2. Current and future roadway travel speed, travel time, and delay time
3. Traffic generation rate estimates
4. Information, data and reference sources
5. An evaluation of the level of service for all geometric elements
6. Accurate and understandable diagrams
7. All assumptions and adjustment factors
8. An analysis of all reasonable alternatives including a no build alternative
9. A safety analysis including conflict points and movements
10. A conceptual design showing all geometric elements and approximate dimensions with detailed analysis of any elements below code standards

Additional information and additional analysis based upon other factors and standards may be required if determined to be necessary for a complete evaluation.

Any access that would not meet the highway bandwidth requirements above if a traffic signal were installed shall not be signalized and shall be limited to right turns.

1.4 LIMITED ACCESS HIGHWAYS (INTERSTATE OR FREEWAYS / EXPRESSWAYS)

1.4.1 Limited Access Highways - Functional Characteristics

Entrances are not permitted on limited access highways classified as interstates, freeways, expressways and sections of principal arterials. These highways have the capacity for high speed and high volume traffic movements over long distances in an efficient and safe manner, including interstate, interregional, intercity and, in larger urban areas, intra-city travel. Federal aid interstate highways are typical of these classifications.

1.4.2 Limited Access Highways - Design Standards

All opposing traffic movements shall be separated by physical constraints such as grade separations and median separators. Access, consisting of directional ramps, shall be suitably spaced and designed to provide the minimum differential between the speed of the through traffic stream and the speed of the merging or diverging vehicles. Location and design of access shall be determined on an individual basis by DelDOT. Each access allowed to a limited access highway must receive the specific approval of the Chief Engineer and the FHWA. Access to interstate highways must comply with federal regulations. Temporary access may be allowed during official emergencies or where directly related to a freeway construction project.

1.5 ARTERIALS

1.5.1 Arterials - Functional Characteristics

These highways, including sections of principal arterials and all minor arterial classifications, have the capacity for high speed and high volume traffic movements in an efficient and safe manner, providing for interstate, interregional, and intercity, travel needs and some intra-city travel needs. Direct access service to abutting land is subordinate to providing service to through traffic movements on the highway. Arterials are the highest classification that permits at-grade intersections.

1.5.2 Arterials - Design Standards

Private direct access may only be permitted on an arterial if there is no other reasonable access from a lower classification roadway, and if the access rights have not been previously purchased by the State.

All private direct access permitted shall be limited to right turns only unless a left turn movement can be designed that, in the opinion of DelDOT, meets all safety requirements.

For commercial or major residential subdivisions, no additional access rights shall accrue upon the splitting or dividing of existing parcels or contiguous parcels under the same ownership or control. All access to the newly created properties shall be provided internally from a single access. Any new access determined by the permit application shall be consistent with the requirements of the *Development Coordination Manual*.

All access provided to arterials shall be done so with the understanding that if the highway is reconstructed to a limited access highway, alternative access may be provided by a service road or other means.

1.6 COLLECTORS

1.6.1 Collectors - Functional Characteristics

These highways have the capacity for medium to high travel speeds and high traffic volume over medium and long distances in an efficient and safe manner. They provide connections between arterials and local roads. Direct access service to abutting land is subordinate to providing service to through traffic movements.

1.6.2 Collectors - Design Standards

The design of all collector roadways should be capable of achieving a posted speed limit of 35 to 45 MPH on urbanized signalized segments and preferably 50 MPH in rural areas. A speed limit of 35 to 45MPH in urbanized areas is acceptable where posted and there is little or no possibility of achieving higher speeds.

For commercial or major residential subdivisions, no additional access rights shall accrue upon the splitting or dividing of existing parcels or contiguous parcels under the same ownership or control. All access to the newly created properties ~~shall~~ should be provided internally from a single access. Any new access determined by the permit application shall be consistent with the requirements of the *Development Coordination Manual*.

1.7 LOCAL ROADS

1.7.1 Local Roads - Functional Characteristics

These highways have the capacity for moderate travel speeds and moderate traffic volumes over medium and short travel distances providing for intra-city and intercommunity travel needs. There is a reasonable balance between direct access and mobility needs within this category.

1.7.2 Local Roads - Design Standards

The design of all local roads should be capable of achieving a posted speed limit of 30 to 50 MPH. The posted speed limit shall be used to meet the requirements of access to State-maintained roadways unless an approved plan or study shows improvements to the highway require a higher speed limit be used.

One access may be allowed from a State-maintained roadway to an individual parcel or to contiguous parcels under the same ownership or control where such access will not compromise the safety and operation of the roadway. Additional access may be provided in certain circumstances (see Section 7.2.3.1).

1.8 SERVICE ROADS

1.8.1 Service Roads - Functional Characteristics

Service roads are designed where there is no intended purpose of providing for long distance or high volume traffic movements. Service roads may be public or private. Access needs will take priority over through traffic movements without compromising safety or operation. Providing reasonable and safe access to abutting property is the primary purpose of this type. At the request of the local land use agency or their designee, DelDOT may change any service road to a higher classification to support local transportation plans.

1.8.2 Service Roads - Design Standards

One direct access may be allowed from a service road to an individual parcel or to contiguous parcels under the same ownership or control where such access will not be detrimental to the safety and operation of the service road.

Additional access may be allowed when DelDOT determines that the following conditions are met:

A. There will not be any significant safety or operational problems created by the additional access~~, and~~

B. Additional access would not cause a hardship to an adjacent property